CLAIMS:

1. Receiver arranged to receive at least two RF signals (s_1,s_2), wherein a first RF signal of the at least two radio frequency signals (s_1,s_2) has a first center frequency and a second signal of the at least two RF radio frequency signals (s_1,s_2) has a second center frequency, the receiver comprising:

- a frequency shifter (10,11) arranged to shift the first center frequency to the second center frequency; and
- a combiner (12) arranged to combine the frequency shifted first RF signal (s_3) with the second RF signal (s_1) so as to obtain a combined RF signal (s4);
- a frequency down converter(15,16) arranged to frequency down convert the combined RF signal (s4) to a combined lower frequency signal; and
- a demodulator (19) arranged to demodulate the combined lower frequency signal;

2. Receiver according to claim 1, wherein the combiner (12) is arranged to make the first RF signal (s_2) orthogonal to the second RF signal (s_1).

3. Receiver according to claim 2, wherein the combiner (12) comprises at least a first (22) multiplexing switch for multiplying the first RF signal (s_2) with a first code sequence and a second multiplexing switch (21) for multiplying the second RF signal (s_1) with a second code sequence.

4. Receiver according to claim 2, wherein the multiplexing switches (21,22) are BPSK phase modulators.

5. Receiver according to claim 3, wherein the first and second code sequences are applied to the first and second RF signals (s_1,s_2) at a rate which is equal to at least twice the sample rate of the corresponding first and second RF signals (s_1,s_2).

6. Receiver according to claim 3, wherein the first code sequence is a Wal (0) function and the second code sequence is a Wal (1) function.

7. Receiver according to claim 1, wherein the combiner (12) is arranged to time-multiplex the first and second RF signals (s_1,s_2).

8. Receiver according to claim 1, wherein the combiner (12) is arranged to position the frequency band of the at least two RF signals adjacent (s_1,s_2) to each other.

9. Receiver according to claim 1, wherein the receiver is arranged to receive synchronization signals for synchronizing the reception of the at least two RF signals (s_1,s_2).

10. Receiver arranged to claim 1, wherein the receiver is arranged to monitor the ether for the presence second RF signal.

11. Receiver according to claim 1, wherein a bandwidth of the first RF signal (s_2) is comparable to a bandwidth of the second RF (s_2) signal.

12. Receiver according to claim 1, wherein the first RF signal (s_2) is a DVB signal.

13. Receiver according to claim 1 or 2, wherein the second RF signal (s_1) is a UMTS signal.

14. Mobile terminal (30) comprising a receiver according to claim 1.

15. Telecommunication system comprising a receiver according to claim 1.

16. Telecommunication system according to claim 15, wherein the network is arranged to emit a synchronization signal for synchronizing the receiver for the reception of the at least two RF signals (s_1,s_2).

17. Telecommunication system according to claim 15, comprising at least two radio sources for emitting at least two RF signals that are arranged to emit the at least two RF

signals (s_1,s_2) in a synchronized manner.

18. Telecommunication channel according to claim 17, wherein the at least two radio sources are coupled together in order to synchronize the emittion of the at least two RF signals (s_1,s_2).

19. Synchronization signal emitted by a network arranged to synchronize a receiver for the reception of at least two RF signals (s_1,s_2).

20. Synchronization signal according to claim 17, wherein the synchronization signal is incorporated into at least one of the at least two RF signals (s_1,s_2).

21. Method of receiving at least two RF signals, wherein a first RF signal of the at least two RF signals has a first center frequency and a second RF signal of the at least two RF signals has a second center frequency, the method comprising the steps of:

- shifting the first center frequency to the second center frequency;
- multiplexing the frequency shifted first RF signal together with the second RF signal into a combined RF signal;
- frequency down converting the combined RF signal into a combined lower frequency signal; and
- demodulating the combined lower frequency signal;